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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,353	12/01/2003	Masaharu Akiba	Q78641	8087
23373	7590	04/24/2006		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER ANGEBRANNDT, MARTIN J	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,353

Applicant(s)

AKIBA ET AL.

Examiner

Martin J. Angebrannt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/29/04, 10/01/03 & 1/24/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/29/04 & 1/24/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,4 and 5 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Elmasry et al. '375.

Example 4 uses the dye VIa, VIb, VIc and VIc described in table 1 and formula VI where n is 5-10,000. Formula I allows the linkage to the ring to be 1-20 CH₂ groups in a manner similar to that shown in formula II. (abstract)

The examiner holds that n= 5-10 is present in the composition at some level.

4. Claims 1,4 and 5 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Burns et al. '123.

Example 1 uses the dye H-1 (shown in columns 5-6) (95/27-60).

The examiner holds that n= 5-10 is present in the composition at some level.

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5. Claims 1,4 and 5 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Elmasry et al. '819.

Examples 4-5 use polymeric azo dyes and example 6 uses polymeric cyanine dyes.

The examiner holds that $n=5-10$ is present in the composition at some level.

6. Claims 1,4 and 5 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Umehara et al. '812

Example 5-1 uses the polymeric cyanine dye A.

The examiner holds that $n=5-10$ is present in the composition at some level.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being fully anticipated by Savant et al. '221.

See example V in column 22.

8. Claims 1,4 and 5 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Wilson '772.

Wilson '772 teaches photographic recording media in examples I-VI which use polymeric trimethine cyanine dyes and establish their sensitivity in the range of up to about 650 nm. One of the moieties may be rhodanines, hydantoins and the like (6/25-51). The formation of bismerocyanines is disclosed. (7/63-69)

The claims do not require that the media be a CD, DVD or the like. Photographic materials inherently can record digital as well as analog data.

9. Claims 1,4 and 5 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Brooker '137.

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Brooker '137 teaches photographic recording media in examples 1,5--VI which use polymeric trimethine cyanine dyes and establish their maximum sensitivity of approximately 550-600 nm. .

10. Claims 1,4,5,10 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson '772, in view of Verbeek et al. '625 and/or Nakazawa et al. '146.

Verbeek et al. '625 teaches the exposure of a black and white emulsion using various light sources including lasers, such as the He-Ne which emits at 633 nm.

Nakazawa et al. '146 teaches the recording of holograms in photographic emulsions using HeNe lasers emitting at 632.8 nm. (1/28-37). The sensitizing dyes are trimethine cyanine dyes. There is a reference to Hamer. (13/45-46).

It would have been obvious to one skilled in the art to modify the processes of using the emulsions disclosed by Wilson '772 by using the emulsions of examples I-IV with lasers to record data or holograms as taught by Verbeek et al. '625 and/or Nakazawa et al. '146 with a reasonable expectation of recorded useful data.

The claims do not require that the data be digital.

11. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima et al. '772.

Morishima et al. '772 teach in the examples CD-R media which use a cyanine dyes (example 1 uses pentamethine dye) and a 1.2 mm thick substrate. (41/30+) A dimeric pentamethine cyanine dyes is disclosed as dye B-66 in column 35. The use of lasers in the 500-800 nm, which DVD-R using 630-680 nm lasers is disclosed. (41/4-21).

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It would have been obvious to one skilled in the art to modify example 1 by using the dimeric cyanine dye B-66 in place of the similar pentamethine (monomeric) dye B-16 with a reasonable expectation of forming a useful optical recording medium. Further, it would have been obvious to use the higher density DVD-R format and laser in place of the CD-R with a reasonable expectation of realizing the ability to record more information on the medium.

12. Claims 1-3 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wariishi JP 11-058973 (machine translation attached).

Wariishi JP 11-058973 teaches the use of substrates for the DVD-R format where the thickness is 0.6 microns and the pitch is 0.6-0.9 microns, where (1) the two substrates each bearing a recording layer may be adhered together so two recording layers are useful and disposed inside the substrates and (2) a second substrate may be applied as a protective layer. The use of thicknesses of 0.6 or 1.2 microns is disclosed. The use of 120 or 80 mm diameters is also disclosed. [0170-0175]. The DVD format uses 600-700 nm, preferably 620-680 nm lasers. Examples 9-11 use a 0.6 microns thick substrate, with a diameter of 120 mm and a pitch of 0.8 microns where a single recording layer is formed and a protective 0.6 thick polycarbonate plate adhered to for a total thickness of 1.2 mm. This is recorded upon with a 635 nm laser. [0192-0194]. The L groups in formulae 7 (cyanine dyes) [0008-0009,0040] and formula 8 (may be substituted) [0010-0011,0100] are the same and may connect. A dimeric pentamethine cyanine dyes is disclosed as dye B-66 [0075]. Trimethine oxanol dyes are disclosed [0132-0133,0136-0137]. Trimethine cyanine dyes are disclosed [0067-0068]

It would have been obvious to one skilled in the art to modify one of examples 1-8 by using the dimeric cyanine dye I-80 in place of the similar pentamethine (monomeric) dye with a

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reasonable expectation of forming a useful optical recording medium. Alternatively, it would have been obvious to one skilled in the art to modify one of examples 9-11 by using the dimeric trimethine cyanine dye analogous to the dimeric pentamethine dye I-80 in place of the similar trimethine (monomeric) dyes I-38, I-39, or I-52 with a reasonable expectation of forming a useful optical recording medium useful with the 635 nm laser disclosed. Further, it would have been obvious to modify the recording media resulting from the modification of examples 9-11 by replacing the polycarbonate protective substrate with similar substrate bearing a recording layer to double recording density (due to two, rather than one recording layer) of the recording medium.

13. Claims 1-7 and 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wariishi JP 11-058973, in view of Hamer "The cyanine dyes and related compounds" (c) 1964 pp. 668-681, Wilson '772 and Elmasry et al. '375.

Hamer "The cyanine dyes and related compounds" (c) 1964 pp. 668-681 teaches polymeric cyanine dyes linked by CH₂ groups. Dyes XC on page 677 are trimethine cyanine dyes and absorb Dyes CXI through CXIII are styryl dyes. Dyes XCIV and XCV are trimethine dyes bound through the methine chain, but without resonance between them,

It would have been obvious to one skilled in the art to modify the invention of Wariishi JP 11-058973 by using polymeric trimethine cyanine dyes where the dyes are linked together through the terminal moieties as taught by Wilson '772 and Elmasry et al. '375 based upon the equivalence of the connections (ie non-resonance, CH₂ linkages), rather than linkages between the trimethine cyanine dyes being through the meso position on the chain, the equivalence of which is supported by the teachings of Hamer with a reasonable expectation of forming a useful

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optical recording medium based at least in part upon the use of similar compounds by Elmasry et al. '375 in optical recording media. Further it would have been obvious to modify the resulting medium by using the trimethine oxanol or merocyanine analogs on the basis of these all being polymethine dyes and related to cyanine and the similar language used in describing them or the substitution of the methine linkages by Wariishi JP 11-058973, Hamer "The cyanine dyes and related compounds" (c) 1964 pp. 668-681 and Wilson '772 with a reasonable expectation of forming a useful recording medium.

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 1 and 4-9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/930804 (US 2005/0063292). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims recite an optical recording medium and the specific dye in claim 5.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

16. Claims 1-17 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/930804 (US 2005/0063292), in view of Wariishi JP 11-058973.

It would have been obvious to modify the invention claimed in claims 1-12 by adding the structure of the two substrates disclosed in Wariishi JP 11-058973 and/or the nominal use of the resultant medium with DVD-R recording systems operating at 620-680 nm with a reasonable expectation of forming an useful optical recording medium and/or recording digital data.

This is a provisional obviousness-type double patenting rejection.

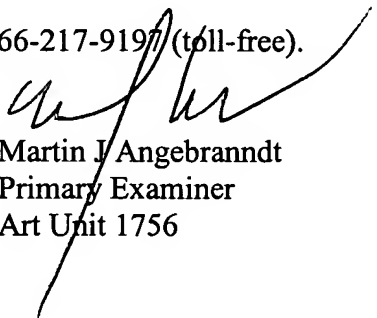
17. If the applicant limited the coverage sought to the dye of claims 8 and 9 and included a terminal disclaimer in the next response, the claims would be allowable.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J. Angebranndt
Primary Examiner
Art Unit 1756

4/20/2006